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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	(snapshot or "snap shot") near (tree with structure)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:39
L2	1369	(snapshot or "snap shot") and (tree with structure)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:40
L3	433	((snapshot or "snap shot") and (tree with structure)) and ("read-only" or "write-only")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:40
L4	350	((snapshot or "snap shot") and (tree with structure)) and ("read-only" or "write-only") and database	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:41
L5	338	4 and (updat\$4 or modif\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:41
L6	335	((snapshot or "snap shot") and (tree with structure)) and ("read-only" or "write-only") and database and (update or updating or modify or modified or modifying)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:42
L7	0	((((snapshot or "snap shot") and (tree with structure)) and ("read-only" or "write-only") and database and (update or updating or modify or modified or modifying)) and (base adj2 volume)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:43
L8	254	((((snapshot or "snap shot") and (tree with structure)) and ("read-only" or "write-only") and database and (update or updating or modify or modified or modifying)) and volume	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:44
L9	27	((((creat\$4 near (snapshot or "snap shot")) and (tree with structure)) and ("read-only" or "write-only") and database and (update or updating or modify or modified or modifying)) and volume	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:45

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L10	33015	"707"/\$.cls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:45
L11	23	9 and 10	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/19 20:45

	Document ID	Kind Codes	Source	Issue Date	Pages
1	US 20050246397 A1		US- PGPUB	20051103	27
2	US 20050144202 A1		US- PGPUB	20050630	23
3	US 20050021569 A1		US- PGPUB	20050127	28
4	US 20040260673 A1		US- PGPUB	20041223	55
5	US 20030195903 A1		US- PGPUB	20031016	37
6	US 20030182330 A1		US- PGPUB	20030925	37
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8	US 20030182322 A1		US- PGPUB	20030925	37
9	US 20030182313 A1		US- PGPUB	20030925	37
10	US 20030182312 A1		US- PGPUB	20030925	36
✓11	US 20030163476 A1		US- PGPUB	20030828	27

	Title	Abstract
1	Cloning technique for efficiently creating a copy of a volume in a storage system	
2	System and method for supporting asynchronous data replication with very short update intervals	
3	Systems, methods and apparatus for creating stable disk images	
4	Copy on write file system consistency and block usage	
5	System and method for asynchronous mirroring of snapshots at a destination using a purgatory directory and inode mapping	
6	Format for transmission file system information between a source and a destination	
7	System and method for asynchronous mirroring of snapshots at a destination using a purgatory directory and inode mapping	
8	System and method for storage of snapshot metadata in a remote file	
9	System and method for determining changes in two snapshots and for transmitting changes to destination snapshot	
10	System and method for redirecting access to a remote mirrored snapshot	
11	Systems, methods and apparatus for creating stable disk images	

	Current OR	Current XRef	Retrieval Classif	Inventor
1	707/204	711/114; 711/162		Edwards, John K. et al.
2	707/205			Chen, Raymond C.
3	707/200			Lanzatella, Thomas W. et al.
4	707/1			Hitz, David et al.
5	707/201			Manley, Stephen L. et al.
6	707/205			Manley, Stephen L. et al.
7	707/204			Manley, Stephen L. et al.
8	707/201			Manley, Stephen L. et al.
9	707/200			Federwisch, Michael L. et al.
10	707/200			Chen, Raymond C. et al.
11	707/100			Lanzatella, Thomas W. et al.

	Document ID	Kind Codes	Source	Issue Date	Pages
12	US 20020091670 A1		US- PGPUB	20020711	54
13	US 7010553 B2		USPAT	20060307	36
14	US 7007046 B2		USPAT	20060228	36
✓ 15	US 6993539 B2		USPAT	20060131	37
✓ 16	US 6983287 B1		USPAT	20060103	28
✓ 17	US 6892211 B2		USPAT	20050510	55
✓ 18	US 6850945 B2		USPAT	20050201	21
✓ 19	US 6721764 B2		USPAT	20040413	55
✓ 20	US 6289356 B1		USPAT	20010911	55
21	US 5963962 A		USPAT	19991005	52
22	US 5819292 A		USPAT	19981006	56

	Title	Abstract
12	Write anywhere file-system layout	
13	System and method for redirecting access to a remote mirrored snapshot	
14	Format for transmission file system information between a source and a destination	
15	System and method for determining changes in two snapshots and for transmitting changes to destination snapshot	
16	Database build for web delivery	
17	Copy on write file system consistency and block usage	
18	Systems, methods and apparatus for creating stable disk images	
19	Copy on write file system consistency and block usage	
20	Write anywhere file-system layout	
21	Write anywhere file-system layout	
22	Method for maintaining consistent states of a file system and for creating user-accessible read-only copies of a file system	

	Current OR	Current XRef	Retrieval Classif	Inventor
12	707/1			Hitz, David et al.
13	707/203			Chen; Raymond C. et al.
14	707/204			Manley; Stephen L. et al.
15	707/201	707/10		Federwisch; Michael L. et al.
16	707/102	707/101; 707/103Y; 709/203; 715/509; 715/532		Jayanti; Harish et al.
17	707/202	707/201; 707/203; 707/204; 714/15; 714/20		Hitz; David et al.
18	707/100	707/10; 707/3; 707/8		Lanzatella; Thomas W. et al.
19	707/202	707/203; 707/204; 714/15; 714/20		Hitz; David et al.
20	707/201	707/202; 707/203; 707/204; 711/161; 711/162		Hitz; David et al.
21	707/202	707/201; 707/204		Hitz; David et al.
22	707/203	707/205		Hitz; David et al.

	Document ID	Kind Codes	Source	Issue Date	Pages
23	US 5794242 A		USPAT.	19980811	17

	Title	Abstract
23	Temporally and spatially organized database	

	Current OR	Current XRef	Retrieval Classif	Inventor
23	707/10	707/204		Green; Russell J. et al.

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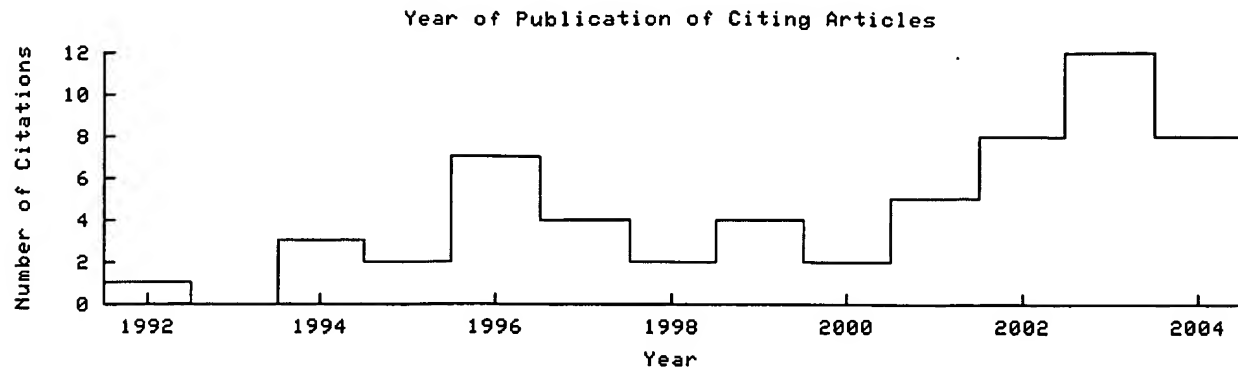
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.... throughput and preventing starvation (when a request languishes in the buffer without being serviced) Preventing starvation could become less important since nonvolatile memory (nvram, i.e. memory that retains its stored values during a system power loss) is emerging as a viable technology [1, 10]. If the disk buffer (which stores data before it is written to disk) consists of nvram then it is not essential for every write to get to disk fast. Hence for writes, throughput becomes the most important performance measure. Servicing read requests is not considered as much of a potential

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[Dynamic Metadata Management for Petabyte-scale File Systems - Weil, Pollack, Brandt..](#) (Correct)

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No context found.

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A Framework for Building Unobtrusive - Disk Maintenance Applications (2003) (Correct)

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Fstress: A Flexible Network File Service Benchmark - Darrell Anderson Department (2002) (2 citations) (Correct)

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